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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,582	08/14/2001	Bruce A. Schofield	13854BAUS01U	9141

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EXAMINER	
SINGH, DALZID E	
ART UNIT	**PAPER NUMBER**
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/929,582	SCHOFIELD, BRUCE A.	
	Examiner	Art Unit	
	Dalzid Singh	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 11-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishi et al (US Pub. No. 2002/0044718).

Regarding claims 11 and 15, Nishi et al disclose optical switching system, as shown in Fig. 2, comprising:

demultiplexing logic ((41-1) and (41-2)) for demultiplexing optical data streams from a plurality of incoming fibers ((46-1) and (46-2));

dropping/passing logic operable coupled to the demultiplexing logic for receiving the demultiplexed optical data streams from the demultiplexing logic and configured to only selectively drop or pass each demultiplexed optical data stream ((42-1) and (42-2)) is a dropping/passing logic coupled to the demultiplexer ((41-1) and (41-2); in the specification, as originally filed, on page 8 lines 6-10 applicant disclosed that the dropping fabric may use any variety of photonic switching technologies, therefore based

on this, the photonic switches (42-1) and (42-2) of Nishi et al are considered as drop fabrics);

photonic switching logic (42-3) operably coupled to the dropping/passing logic (42-1) for receiving the passed optical data streams from the dropping/passing logic (42-1) and a number of new optical data streams (the new optical data stream is received by input XP1, XP2, XP3 and XP4) and to switch each of said optical data streams to an output port of the photonic switching logic; and

combining logic (43-1) operable coupled to combine the switched optical data streams from the photonic switching logic.

Regarding claims 12 and 16, as shown in Fig. 2, Nishi et al show plurality of demultiplexers ((41-1) and (41-2)) coupling to different fibers ((46-1) and (46-2)).

Regarding claims 13 and 17, in Fig. 2, Nishi et al show a plurality of drop-only fabrics ((42-1) and (42-2)), each drop-only fabric operable coupled to receive a plurality of demultiplexed optical data streams from the demultiplexing logic ((41-1) and (41-2)) and selectively drop or pass each demultiplexed optical data stream.

Regarding claims 14 and 18, in view of claim 1, in Fig. 2, Nishi et al show a plurality of combiners ((43-1) and (43-2)), each combiner operable coupled to combine a plurality of switched optical data streams from the photonic cross-connect switch (117_1) with a number of new optical data streams to form an outgoing optical signal.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminow et al (US Patent No. 5,623,356) in view of Bortz (US Patent No. 6,771,905).

Regarding claims 1 and 6, Kaminow et al disclose optical communication system, as shown in Fig. 1, comprising:

demultiplexing logic ((105_1) to (105_N)) for demultiplexing optical data streams from a plurality of incoming fibers ((101_1) to (101_N));

dropping/passing logic operable coupled to the demultiplexing logic for receiving the demultiplexed optical data streams from the demultiplexing logic and configured to only selectively drop or pass each demultiplexed optical data stream ((111_1) to (111_N)) is a dropping/passing logic coupled to the demultiplexer ((105_1) to (105_N); in the specification, as originally filed, on page 8 lines 6-10 applicant disclosed that the dropping fabric may use any variety of photonic switching technologies, therefore based on this, the photonic switches (111_1) to (111_N) of Kaminow et al are considered as drop fabrics);

photonic switching logic (117_1) operably coupled to the dropping/passing logic (111_1) for receiving the passed optical data streams (113_1) from the dropping/passing logic; and

combining logic (125_1) operable coupled to combine the switched optical data streams from the photonic switching logic (117_1) with a number of new optical data stream to form a plurality of outgoing optical signals (combining logic (125_1) combines the through data signal received from switch (117_1) and new optical data stream received from switch ($117_{F'}$)).

Kaminow et al show photonic switching as discussed and differ from the claimed invention in that Kaminow et al do not specifically disclose that the switch is switching each passed optical data stream to an output port of the photonic switching logic. However, such concept is well known. Bortz is cited to show switching device that is capable of switching each optical data stream to an output port of the switch. In Fig. 2a, Bortz shows each optical signal, such as from each input port ((30_{I1}) to (30_{Ij})), is switched to an output port (30_{O1}). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to replace the switch of Kaminow et al with that of Bortz in order to switch multiple data stream from various input ports of the switch into an output port. One of ordinary skill in the art would have been motivated to do this in order to route plurality of signal from various sources into a single path.

Regarding claims 2, 7, 12 and 16, as shown in Fig. 1, Kaminow et al show plurality of demultiplexers ((105_1) to (105_N)) coupling to different fibers ((101_1) to (101_N)).

Regarding claims 3, 8, 13 and 17 (as far as understood), in Fig. 1, Kaminow et al show a plurality of drop-only fabrics ((111_1) to (111_N)), each drop-only fabric operable coupled to receive a plurality of demultiplexed optical data streams from the demultiplexing logic ((105_1) to (105_N)) and only selectively drop or pass each demultiplexed optical data stream without adding new optical data streams (since the switch is controllable, therefore it would have been obvious that the switch could be controlled so that it function to selectively drop or pass the signal).

Regarding claims 4 and 9, in Fig. 1, Kaminow et al show a plurality of combiners ((125_1) to $(125_{N'})$), each combiner operable coupled to combine a plurality of switched optical data streams from the photonic cross-connect switch (117_1) with a number of new optical data streams (received from switch $(117_{F'})$) to form an outgoing optical signal.

Regarding claims 5 and 10, in Fig. 1, Kaminow et al show first combiners ((125_1) to $(125_{N'})$), each of said first combiners operable coupled to combine a plurality of switched optical data streams from the photonic cross-connect switch (117_1) with a number of new optical data streams (received from switch $(117_{F'})$) to form a combined optical signal and differ form the claimed invention in that Kaminow et al do not specifically disclose second combiners, each of said second combiners operable coupled

to combine the combined optical signal from a corresponding first combiner with a number of new optical data streams to form an outgoing optical signal. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention as made to provide second combiners to add new optical data streams to form an outgoing optical signal. One of ordinary skill in the art would have been motivated to do this in order to add greater number of data signal to the outgoing signal.

Regarding claims 11 and 15, Kaminow et al disclose optical communication system, as shown in Fig. 1, comprising:

demultiplexing logic ((105_1) to (105_N)) for demultiplexing optical data streams from a plurality of incoming fibers ((101_1) to (101_N));

dropping/passing logic operable coupled to the demultiplexing logic for receiving the demultiplexed optical data streams from the demultiplexing logic and configured to only selectively drop or pass each demultiplexed optical data stream ((111_1) to (111_N)) is a dropping/passing logic coupled to the demultiplexer ((105_1) to (105_N); in the specification, as originally filed, on page 8 lines 6-10 applicant disclosed that the dropping fabric may use any variety of photonic switching technologies, therefore based on this, the photonic switches (111_1) to (111_N) of Kaminow et al are considered as drop fabrics);

photonic switching logic (117_1) operably coupled to the dropping/passing logic (111_1) for receiving the passed optical data streams (113_1) from the dropping/passing

logic (111_1) and a number of new optical data streams (the new optical data stream is received from switch (111_N)) and to switch each of said optical data streams to an output port of the photonic switching logic; and

combining logic (125_1) operable coupled to combine the switched optical data streams from the photonic switching logic.

Kaminow et al show photonic switching as discussed and differ from the claimed invention in that Kaminow et al do not specifically disclose that the switch is switching each passed optical data stream to an output port of the photonic switching logic. However, such concept is well known. Bortz is cited to show switching device that is capable of switching each optical data stream to an output port of the switch. In Fig. 2a, Bortz shows each optical signal, such as from each input port ((30_{I1}) to (30_{Ij})), is switched to an output port (30_{O1}). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to replace the switch of Kaminow et al with that of Bortz in order to switch multiple data stream from various input ports of the switch into an output port. One of ordinary skill in the art would have been motivated to do this in order to route plurality of signal from various sources into a single path.

Regarding claims 14 and 18, in Fig. 1, Kaminow et al show a plurality of combiners ((125_1) to ($125_{N'}$)), each combiner operable coupled to combine a plurality of switched optical data streams from the photonic cross-connect switch (117_1) to form an outgoing optical signal.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (US Pub. No. 2002/0044718) in view of Kaminow et al (US Patent No. 5,623,356).

Regarding claims 1 and 6, Nishi et al disclose optical switching system, as shown in Fig. 2, comprising:

demultiplexing logic ((41-1) and (41-2)) for demultiplexing optical data streams from a plurality of incoming fibers ((46-1) to (46-2));

dropping/passing logic operable coupled to the demultiplexing logic for receiving the demultiplexed optical data streams from the demultiplexing logic and configured to only selectively drop or pass each demultiplexed optical data stream ((42-1) and (42-2)) is a dropping/passing logic coupled to the demultiplexer ((41-1) and (41-2); in the specification, as originally filed, on page 8 lines 6-10 applicant disclosed that the dropping fabric may use any variety of photonic switching technologies, therefore based on this, the photonic switches ((42-1) and (42-2)) of Nishi et al are considered as drop fabrics);

photonic switching logic (42-3) operably coupled to the dropping/passing logic (42-1) for receiving the passed optical data streams from the dropping/passing logic and switching each passed optical data stream to an output port of the photonic switching logic (as shown in Fig. 2, the photonic switch of Nishi et al is a matrix switch which is capable to switch each passed optical data stream to an output port); and

combining logic (43-1) operable coupled to combine the switched optical data streams from the photonic switching logic (42-3) to form a plurality of outgoing optical signals.

Nishi et al show photonic switching as discussed comprising combining logic (43-1) operable coupled to combine the switched optical data streams from the photonic switching logic (42-3) to form a plurality of outgoing optical signals and differ from the claimed invention in that Nishi et al do not specifically disclose that the combiner receives new optical data stream. However, it is well known that combiner is capable of receiving multiple optical data streams from a switching system and a new optical data stream. Kaminow et al is cited to show such well known concept. In Fig. 1, Kaminow et al show combining logic (125_1) operable coupled to combine the switched optical data streams from the photonic switching logic (117_1) with a number of new optical data stream to form a plurality of outgoing optical signals (combining logic (125_1) combines the through data signal received from switch (117_1) and new optical data stream received from switch ($117_{F'}$)). Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide a combiner which receives optical data stream from a switch and a new optical data stream. One of ordinary skill in the art would have been motivated to do this in order to combine new data with the selected data signal from the optical switch to form new set of data signal.

Regarding claims 2 and 7, as shown in Fig. 2, Nishi et al show plurality of demultiplexers ((41-1) and (41-2)) coupling to different fibers ((46-1) and (46-2)).

Regarding claims 3 and 8 (as far as understood), in Fig. 2, Nishi et al show a plurality of drop-only fabrics ((42-1) and (42-2)), each drop-only fabric operable coupled to receive a plurality of demultiplexed optical data streams from the demultiplexing logic ((41-1) and (41-2)) and only selectively drop or pass each demultiplexed optical data stream without adding new optical data streams (since the switch is controllable, therefore it would have been obvious that the switch could be controlled so that it function to selectively drop or pass the signal).

Regarding claims 4 and 9, in view of claim 1, in Fig. 2, Nishi et al show a plurality of combiners ((43-1) and (43-2)), each combiner operable coupled to combine a plurality of switched optical data streams from the photonic cross-connect switch (117_1) with a number of new optical data streams to form an outgoing optical signal.

Regarding claims 5 and 10, the combination of Nishi et al and Kaminow et al shows first combiners (see Fig. 1 of Kaminow et al), each of said first combiners operable coupled to combine a plurality of switched optical data streams from the photonic cross-connect switch (117_1) with a number of new optical data streams to form a combined optical signal and differ form the claimed invention in that the combination does not specifically disclose second combiners, each of said second combiners operable coupled to combine the combined optical signal from a corresponding first combiner with a number of new optical data streams to form an

outgoing optical signal. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention as made to provide second combiners to add new optical data streams to form an outgoing optical signal. One of ordinary skill in the art would have been motivated to do this in order to add greater number of data signal to the outgoing signal.

Response to Arguments

6. Applicant's arguments filed 10 October 2005 have been fully considered but they are not persuasive.

In the remarks applicant indicated that the prior art used in the claim rejection do not disclose that the switch is "...configured to only selectively drop or pass..." and that the prior art's switch is configured to selectively drop, pass or add optical data. However, the prior art's switch is controllable therefore it would have been obvious to control the switch such that it only selectively drop or pass the optical data stream. Since the switch is controllable, selective omission of the adding function would have been obvious if this functionlity was not desired (see *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS
January 4, 2007

DALZID SINGH
PRIMARY EXAMINER

Dalzid Singh